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**La Iniciativa del Laboratorio  
de Habilidades Clínicas  
Veterinarias****The Veterinary Clinical Skills  
Laboratory Initiative****Sarah Baillie****Emma Crowther**

University of Bristol, UK

**Marc Dilly**University of Veterinary Medicine of  
Hannover, Germany**Sarah Baillie****Emma Crowther**

University of Bristol, UK

**Marc Dilly**University of Veterinary Medicine of  
Hannover, Germany**Resumen**

Los estudiantes de veterinaria necesitan desarrollar competencia en sus habilidades clínicas como preparación para el trabajo práctico. Los modelos y simuladores se utilizan cada vez más para ayudar a complementar la formación práctica existente y, a menudo, se alojan en laboratorios de habilidades clínicas. Este tipo de laboratorio ofrece un ambiente seguro donde los estudiantes pueden practicar varias veces en los modelos

**Abstract**

Veterinary students need to develop competence in clinical skills in preparation for working in practice. Models and simulators are increasingly used to help supplement existing training and are often housed in a clinical skills laboratory. The laboratory provides a safe environment where students can practise repeatedly on models in order to develop proficiency. It is also an ideal venue to run practical classes and assessments, such as an

con el fin de desarrollar el dominio de las habilidades. También es un lugar ideal para realizar clases y evaluaciones prácticas, tales como los exámenes clínicos estructurados por objetivos (OSCE). La iniciativa del laboratorio de habilidades clínicas veterinarias es relativamente nueva y de crecimiento reciente, lo que ha sido facilitado por varios factores. Es mucho lo que se puede aprender de la educación médica y de otras profesiones de la salud, ya que sus laboratorios de habilidades clínicas llevan ya funcionando muchos años. Además, hay varias conferencias específicas de veterinaria que ahora incluyen sesiones dedicadas a las habilidades clínicas y tienen talleres donde, por ejemplo, los participantes pueden compartir consejos sobre la fabricación de modelos y discutir cómo desarrollar y gestionar estos laboratorios. Como complemento a las reuniones cara a cara, hay una próspera comunidad internacional, el grupo “*Veterinary Clinical Skills & Simulation*” en el foro en línea NOVICE (*Network Of Veterinarians In Continuing Education*), donde los miembros pueden hacer preguntas, obteniendo respuestas generalmente rápidas, compartir consejos y recopilar información útil. Recientemente, fruto de una colaboración internacional, se ha publicado una guía gratuita sobre los laboratorios de habilidades clínicas, la cual proporciona información clave para la creación de nuevos laboratorios o la ampliación de las instalaciones existentes. No cabe duda de que la iniciativa de las habilidades clínicas veterinarias seguirá creciendo y compartiendo experiencias, con los beneficios asociados para el aprendizaje del estudiante y el bienestar animal.

**Palabras clave:** Educación veterinaria, Habilidades clínicas, Laboratorio de habilidades clínicas, Simulación.

objective structured clinical examination (OSCE). The veterinary clinical skills laboratory initiative is relatively new and recent growth has been facilitated by several factors. There is much that can be learned from medical education and other health professions as their clinical skills laboratories have been running for many years. Additionally, there are several veterinary conferences that now include dedicated clinical skills sessions and have workshops where, for example, delegates can share tips about making models and discuss developing and managing laboratories. To complement face-to-face meetings, there is a thriving international community, the Veterinary Clinical Skills & Simulation group, in the online forum NOVICE (*Network Of Veterinarians In Continuing Education*). Members ask questions, usually receiving rapid responses, share tips and collate useful information. Recently a free guidebook to clinical skills laboratories has been written by an international collaboration and provides key information for those setting up laboratories or extending existing facilities. There can be little doubt that the veterinary clinical skills initiative will continue to grow and share expertise with associated benefits for student learning and animal welfare

**Key words:** Veterinary education, Clinical skills laboratory, Clinical skills, Simulation.

## Introduction

Clinical skills are an essential competence of new veterinary graduates (EAEVE, 2014; RCVS, 2014) but there are a number of challenges encountered when teaching students using traditional methods. To address these challenges, in recent years there has been an increase in the number of veterinary clinical skills laboratories (Crowther *et al.*, 2013; Dilly *et al.*, 2014) which provide well-equipped venues where students can practise a range of skills using models to complement learning opportunities in the clinic.

The clinical environment, although a crucial part of the learning experience, can be variable for the student and present challenges for the teacher. Student access to cases is essential but teaching is at times difficult to prioritise as the clinician also has to focus on the owner's needs and protect animal welfare. The recent rise in student numbers in some countries may further compound the situation. Additionally, when learning on animals some students are anxious, not wanting to make mistakes that may have serious consequences (Langebæk *et al.*, 2012). As an alternative, models have an important role to play and complement learning in the clinical workplace. Students have reported being keen to utilise such resources to improve their skills (Rosch *et al.*, 2014).

A growing array of models and simulators have been developed by veterinary educators (Scalese and Issenberg, 2005; Baillie, 2007; Fox *et al.*, 2013; Gerke, *et al.*, 2015). These are often housed in a purpose built room or centre, the clinical skills laboratory (Figure 1), which provides a venue for teaching practical sessions and a place where students can practise repeatedly and develop proficiency in a safe environment. Ideally students should be able to customise their learning and address any deficiencies in a timely manner, for example it is helpful to be able to practise suturing and knot tying on models prior to a surgery rotation. Clinical skills laboratories are often used to run assessments (May and Head, 2010) providing an ideal venue for an objective structured clinical examination (OSCE) circuit (Figure 2). Equipping students with both practical and clinical skills prior to working with live animals will also promote animal welfare.



**Figure 1.** Students learning to suture and tie knots using simple models in the clinical skills laboratory at the University of Veterinary Medicine Hannover, Germany.



**Figure 2.** Stations set up for an objective structured clinical examination (OSCE) in the clinical skills laboratory at the School of Veterinary Sciences, University of Bristol, UK.

## Growth of the Veterinary Clinical Skills Laboratory Initiative

The number of veterinary clinical skills laboratories has rapidly increased in recent years. The growth has been facilitated by a variety of factors including networks in medical and veterinary education that provide access to information and opportunities to share ideas and expertise and become more involved.

### Clinical Skills Teaching and Laboratories in Medicine

Models and simulators have been used in medical training for many years with a report describing the use of a sophisticated obstetrics mannequin as early as the 18<sup>th</sup> century (Gelbart, 1998). However, providing a dedicated facility is relatively new with drivers for change including the need to protect public and patient safety and ensure that healthcare professionals have the required level of competency in procedural skills (du Boulay and Medway, 1999; General Medical Council: Tomorrow's Doctors, 2009). Factors to consider when designing a clinical skills laboratory were discussed by Ledingham and Harden (1998) as part of the Twelve Tips series in 'Medical Teacher' while Bradley and Postlethwaite (2003) reflected on their experiences establishing a laboratory. They highlight the importance of referring to relevant educational theory, having a well-designed and supported learning environment and ensuring integration into the curriculum. Other valuable resources from medical education include George and Doto's 'Simple five-step method for teaching clinical skills' (2001), which is a useful framework for staff training, and a systematic review of simulation-based teaching which identified features that maximise educational benefits (McGaghie *et al.*, 2010).

### Conferences, Workshops and Site Visits

Learning from others is an important way to develop an understanding of how to set-up and manage a clinical skills laboratory. Veterinarians and educators enjoy and appreciate

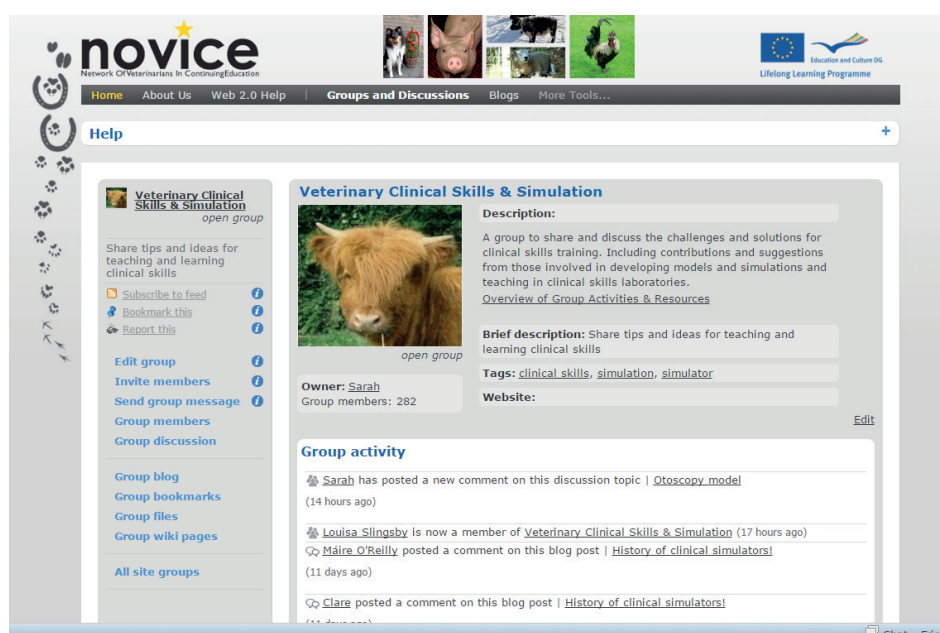


opportunities for face-to-face meetings at conferences as well as gaining hands-on experience at workshops. A specific veterinary clinical skills conference, International Veterinary Simulation in Teaching (InVeST, <http://www.vetedsimulation.com>), was established in 2011 and the first meeting was held at Colorado State University with subsequent meetings in Calgary (2012), St Kitts (2014) and Hannover (2015). Additionally, there have been poster themes and workshops on teaching clinical skills, making models and running OSCEs at other conferences including the Veterinary Education Symposium (VetEd, <http://vetedsymposium.org>), which was established in 2009 and is hosted annually at one of the UK or Irish veterinary schools.

Site visits to established medical, and more recently veterinary, clinical skills laboratories are invaluable. Those hosting visitors typically are generous with their time and prepared to share experiences and provide tips. After such visits, people are able to reflect on their own circumstances and are better able to customise plans according to the local needs and facilities, and optimise the use of the available resources.

### **‘Veterinary Clinical Skills & Simulation’: An Online Community of Practice**

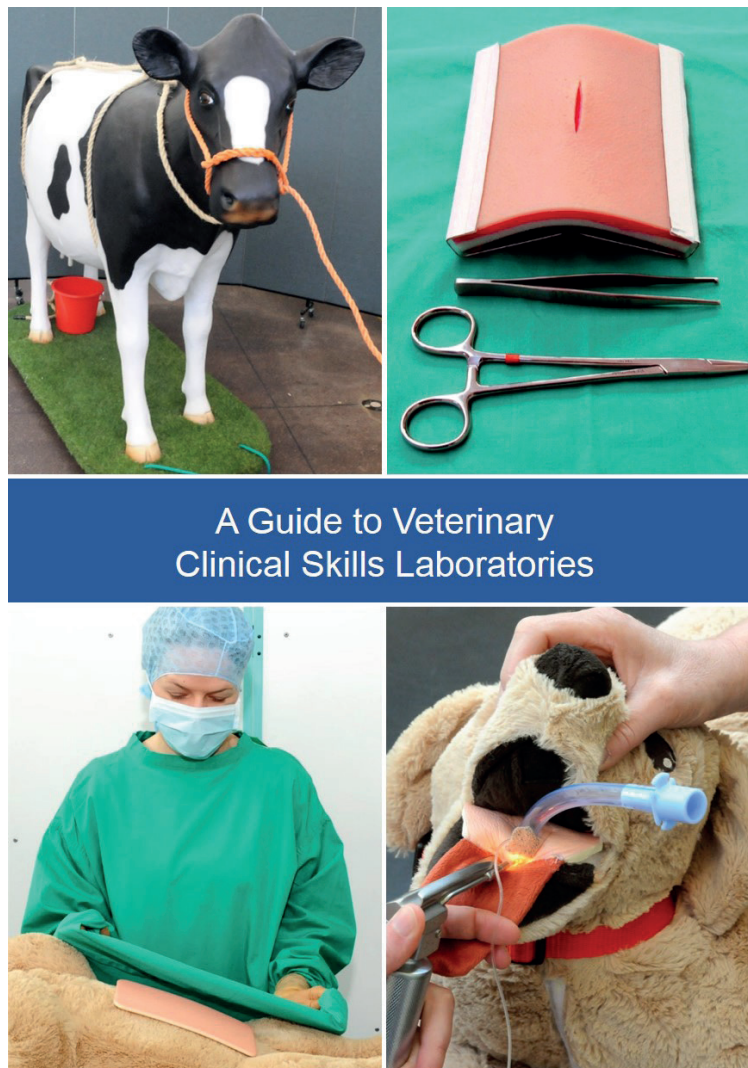
An online group ‘Veterinary Clinical Skills & Simulation’ has been established in the ‘Network Of Veterinarians In Continuing Education’ (NOVICE), an EU funded project to promote informal lifelong learning using social media among veterinarians, students and educationalists (Baillie *et al.*, 2011). The clinical skills group (Figure 3) is one of the most active in the network and since being established in 2010 has grown to nearly 300 members from over 30 countries. The group functions as a community of practice or CoP (Wenger, 1998) for veterinary clinical skills enthusiasts with members using the full range of Web 2.0 tools available. Typical activities include asking questions (and replies tend to be rapid), contributing to discussions, writing blogs e.g. from conferences, collating information in wikis e.g. relevant literature/references, uploading files and photos, and sharing tips e.g. “I’ve used ... to make a model to teach ... and you can buy the materials at ...” The network is free to join at [www.noviceproject.eu](http://www.noviceproject.eu).



**Figure 3.** A screenshot from the NOVICE website of the online group ‘Veterinary Clinical Skills & Simulation’ group. Accessed July 2015.

## A Guide to Veterinary Clinical Skills Laboratories

Recently an international collaboration, with co-authors from the UK, Ireland, Germany Denmark, Canada and St Kitts, has published a booklet (Figure 4) that provides guidance for those considering opening a veterinary clinical skills laboratory or further developing existing facilities (Baillie *et al.*, 2015). The chapters include descriptions of the rationale for teaching clinical skills in a laboratory, integrating clinical skills into a curriculum and tips about what to teach, how to promote effective learning (including staff training), and assessment. Other chapters provide advice about where to set up a clinical skills laboratory, what equipment and supporting learning resources are needed, and considerations for the day to day running of teaching as well as the ongoing management to ensure sustainability of the laboratory.



**Figure 4.** A booklet co-authored by an international collaboration with expertise in veterinary clinical skills.

## Conclusions

The veterinary clinical skills initiative has made great progress in recent years and is likely to continue to grow. Key factors in the success have included the willingness of

the community to share their expertise via multiple modalities. Face-to-face meetings and site visits are an ideal way to see what others are doing while the online community in NOVICE has provided a platform that is readily accessible for those wanting to ask questions of the wider community.

As more and more veterinary schools develop their clinical skills facilities and use models in teaching there are many opportunities to complement the teaching in the clinic with overall benefits for the student learning experience and animal welfare.

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## Sarah Baillie

**University of Bristol, UK.**  
School of Veterinary Sciences  
E-mail: Sarah.Baillie@bristol.ac.uk



Sarah Baillie BVSc, CertCHP, PhD, PFHEA, MRCVS is Professor of Veterinary Education and Veterinary Programme Director at the University of Bristol. She worked in veterinary practice for 20 years before entering academia. Her interests include curriculum development, quality assurance, clinical skills and simulation, professionalism, business skills and the transition into practice.

## Emma Crowther

**University of Bristol, UK.**  
School of Veterinary Sciences  
E-mail: Emma.Crowther@bristol.ac.uk



Emma Crowther BVSc, MRCVS is a veterinary surgeon who has worked in veterinary education and is currently undertaking an internship in small animal practice. Her interests include case-based learning and clinical skills.

## Marc Dilly

**University of Veterinary Medicine of Hannover, Germany.**  
E-mail: marc.dilly@tiho-hannover.de



Marc Dilly DVM, PhD is Director of the Clinical Skills Lab, Bischofsholer Damm 15, 30173 Hannover, Germany. His interests include clinical skills and simulation, mental health in veterinary medicine, and learning strategies.

